

Europäisches Patentamt

(19)

European Patent Office

Office européen des brevets



(11)

EP 0 856 609 A1

(12)

EUROPEAN PATENT APPLICATION

(43) Date of publication:

05.08.1998 Bulletin 1998/32

(51) Int Cl.⁶: E01F 13/02, E01F 9/014

(21) Application number: 98500013.2

(22) Date of filing: 20.01.1998

(84) Designated Contracting States:

AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC
NL PT SE

Designated Extension States:

AL LT LV MK RO SI

(30) Priority: 31.01.1997 ES 9700245 U

(71) Applicants:

- de Fermentino Fabregas, Manuel
08980 Sant Feliu de Llobregat (Barcelona) (ES)
- Andreu Munoz, Ramon
08980 Sant Feliu de Llobregat (Barcelona) (ES)

(72) Inventors:

- de Fermentino Fabregas, Manuel
08980 Sant Feliu de Llobregat (Barcelona) (ES)
- Andreu Munoz, Ramon
08980 Sant Feliu de Llobregat (Barcelona) (ES)

(74) Representative: Gonzalez Gonzalez, Pablo

Consulpi, S.L.,
Badal, 137-139 Esc. B Entlo. 1a
08028 Barcelona (ES)

(54) Improved fence

(57) This fence has a laminar body (1) by way of an inverted U-shape, forming a back ridge (1a) which incorporates signalling light means (3), and which runs towards the lower zone in two diverging surfaces to form the front and rear sides (1b, 1c) of the fence; these front

and rear sides (1b, 1c) have extensions (1e) for fitting feet (2) of greater density than the rest of the fence. The front part (1b) is substantially vertical, and the rear side (1c) is inclined, they each having different widths and a plurality of orifices by way of mesh.

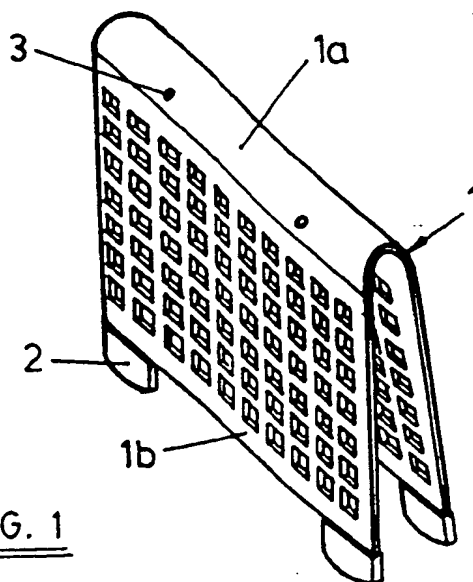


FIG. 1

Description

DESCRIPTION OF THE INVENTION

The present invention relates, as indicated by its title, to an improved fence, of the type used to form enclosures and which include at their ends means of coupling which permit an enclosure to be made by joining successive sections of fencing.

BACKGROUND OF THE INVENTION

The fences currently used for making enclosures are generally composed of a metallic frame provided to the interior with a number of vertical bars, at the lower side with T-shaped feet, and at the sides complementary means of attachment which permit them to be linked together.

These fences present a number of problems, due partly to their metallic character and partly to their configuration; notable in the first group are the permanent deformations suffered by the fence when it receives blows or deterioration by rusting due to its being exposed to the elements; amongst the problems due to the configuration of the fence, difficulties in transport and handling may be mentioned, due to the space taken up by the feet, and the impossibility of linking two fence sections with a small angle due to the feet interfering with each other.

Furthermore, fences in general need to have some means of signalling their presence so that they can be seen easily at night or in dark places such as tunnels, which need is currently resolved using a rather impractical solution consisting in hanging lights from them on chains and with the corresponding locks to prevent them being removed.

DESCRIPTION OF THE INVENTION

The improved fence object of the invention has been designed to solve the above-mentioned problems, presenting a number of constructional features directed at providing this fence with various advantages with respect to those known at present.

In accordance with the invention, the fence in question has a laminar body by way of an inverted U-shape, provided with a back ridge which runs through towards the lower zone in two diverging surfaces to form the front and rear sides of the fence; these surfaces have at the bottom some extensions onto which are fitted some feet which form supports for the fence on the ground.

The aforesaid laminar body is made of a light material, preferably a plastic, which provides important advantages, such as elimination of rust problems, greater ease of handling due to its low weight, elastic response of the fence when submitted to moderate impact and possibility of manufacturing by injection moulding.

The surface forming the front part, which will be ori-

ented towards the outside of the site enclosure, is substantially vertical and flat in order to prevent pedestrians, and especially blind persons, bumping into it, while the rear side, which will be orientated towards the zone containing the building work, forms an inclined surface which projects further at its lower zone, in order to increase the stability of the fence.

The increasing separation between the front and rear sides towards the lower zone provides an additional advantage consisting in the possibility of stacking the fences, with consequent reduction of the space needed for storing and transporting them.

Another of the features of the fence object of the invention is that the surfaces of both the front and the rear sides have a plurality of orifices by way of mesh which minimize the effects of wind on the fence and permit greater or lesser visibility through the fence as the angle of observation varies.

As mentioned at the beginning of this section, the front and the rear sides finish at the bottom in some extensions onto which are mounted feet destined to make contact with the ground; said feet are made of an elastic material of greater density than the laminar body, for example rubber, in such a way that most of the weight of the fence is concentrated at its lower zone in order to increase stability.

The feet have rounded lower ends in order to achieve better adaptation to uneven terrain.

The means of coupling to permit linkage of the successive sections of fencing are provided on the side ends of the front part.

The rear side of the fence is shorter than the front side, the ends of these two sides defining imaginary planes converging towards the rear zone; this feature and the provision of the means of coupling of the fences on the ends of the front section, permit the fencing sections to be attached to each other at a small angle, without their rear sides coming into contact or getting in the way of each other.

It should be mentioned, finally, that the fence object of the invention incorporates light means for signalling, made up of light fittings which are set into the ridge of the fence so as to be visible from the exterior, and the corresponding wiring for connecting same to the mains electricity supply or to a battery included in the fence itself; where the power supply is from a battery, the latter will be fitted inside the ridge to protect it from adverse weather conditions.

DESCRIPTION OF THE DRAWINGS

In order to supplement the description and to assist better understanding of the characteristics of the invention, this specification is accompanied by a set of drawings which form an integral part of same and which, with illustrative and non-restrictive character, show the following:

- Figure 1 shows a perspective view of the fence;
- Figure 2 shows an elevation view of the fence;
- Figure 3 shows a plan view of the fence;
- Figure 4 shows a rear elevation view of the fence, though for greater clarity of the drawing it does not show the orifices in the front part;
- Figure 5 shows a profile view of two fencing sections stacked;
- Figure 6 shows a detail of one of the support feet, sectioned vertically and facing the corresponding lower protrusion from the body of the fence.

PREFERRED EMBODIMENT OF THE INVENTION

As can be observed from the reference-numbered figures, the improved fence is made up of a laminar body 1 and some feet 2 for attachment to the lower zone of the body.

The body 1 is preferably made of a plastic material and has a general inverted-U-shaped configuration which forms a curved ridge 1a, a front section 1b and a rear section 1c.

The front section 1b defines a substantially vertical surface, while the rear side 1c defines an inclined surface which projects further at the lower zone.

Both the front 1b and rear 1c sections have in their surfaces a plurality of through-orifices 1d and their lower sections terminate in extensions 1e on which are mounted the corresponding support feet 2.

The feet 2 are made of an elastic material of greater density than the laminar body 1, for example of rubber, so that they make up the greater part of the weight of the fence.

These feet have at the top a cavity 2a into which is inserted under pressure the corresponding protrusion 1e, and at the lower part they finish in a rounded end 2b to facilitate secure settling of the fence on uneven surfaces.

As can be appreciated in Figures 3 and 4, the rear side 1c is shorter than the front side 1b, with the ends of same forming two imaginary planes which converge towards the rear zone.

The means of attachment of the fence sections are provided on the ends of the front side 1b and are represented in this example of embodiment by some L-shaped hooks 1f and some annular fitments 1g provided at the same height as the hooks and into which the hooks 1f of the next fencing section are inserted.

The fence further includes some signalling light means made up of light fittings 3 which are set into the ridge 1a and are visible from the exterior, and by wiring 3a for connecting the lights to the mains electricity supply or to a battery 3b, shown in Figure 5, fixed to the

lower surface of the ridge.

Where the power supply for the lights 3 is to come from the mains, the wires 3a will be provided with the corresponding connector fixed to the interior zone of the ridge 1a.

A longer description is not considered necessary for the purpose of enabling any expert in the subject to understand the scope of the invention and the advantages which derive from the system.

The terms used in drawing up this specification should always be taken in their broadest and non-restrictive meanings.

The materials, shape, size and arrangement of parts are subject to variation, as long as this does not involve alteration of the essential characteristics of the invention, which are claimed below.

Claims

1. Improved fence, of the type used to form enclosures and which include at their ends means of coupling which permit an enclosure to be made by joining successive sections of fencing, characterized in that it has a laminar body by way of an inverted U-shape, provided with a back ridge which incorporates signalling light means and which runs towards the lower zone in two diverging surfaces to form the front and rear sides of the fence, these surfaces having extensions onto which are fitted some feet which form supports for the fence on the ground.
2. Fence, as claimed in Claim 1, characterized in that the front part is substantially vertical.
3. Fence, as claimed in the previous claims, characterized in that the rear side forms an inclined surface, which projects further at the lower zone, permitting the fence sections to be stacked.
4. Fence, as claimed in the previous claims, characterized in that the surfaces forming the front and exterior sides have a plurality of orifices by way of mesh.
5. Fence, as claimed in the previous claims, characterized in that the laminar body is made of a light material of plastic type.
6. Fence, as claimed in the previous claims, characterized in that the supporting feet are made of an elastic material of greater density than the laminar body.
7. Fence, as claimed in the previous claims, characterized in that the rear side of the fence is shorter than the front side.

8. Fence, as claimed in the previous claims, characterized in that the means of coupling, destined to permit attachment of successive fence sections to each other, are provided on the side ends of the front side 5
9. Fence, as claimed in the previous claims, characterized in that the light means for signalling comprise light fittings which are set into the ridge of the fence and the wiring for connecting the lights to the mains electricity supply or to a battery included in the fence itself. 10
10. Fence, as claimed in Claims 1 and 9, characterized in that the wiring is connected to a battery included in the fence and fixed to the interior surface of the ridge. 15

20

25

30

35

40

45

50

55

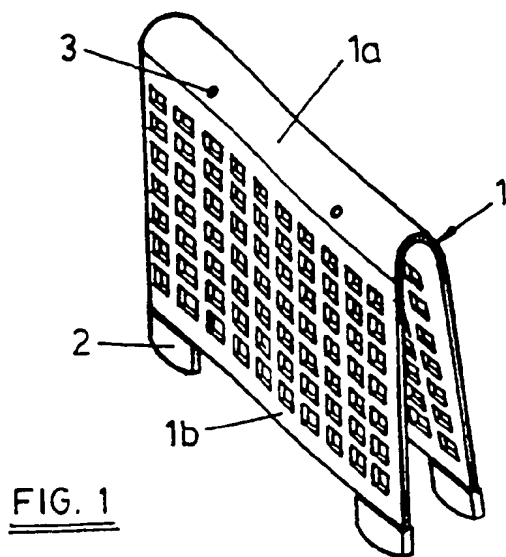


FIG. 1

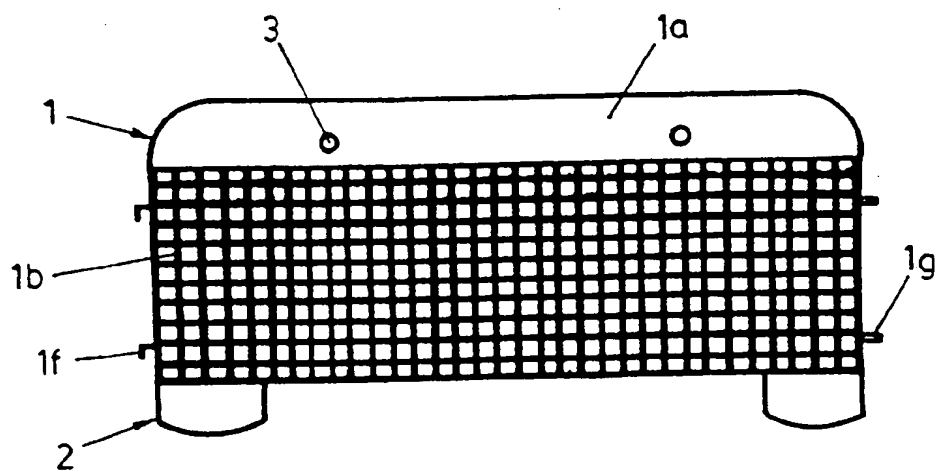


FIG. 2

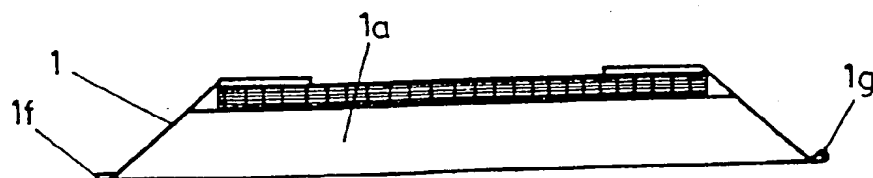


FIG. 3

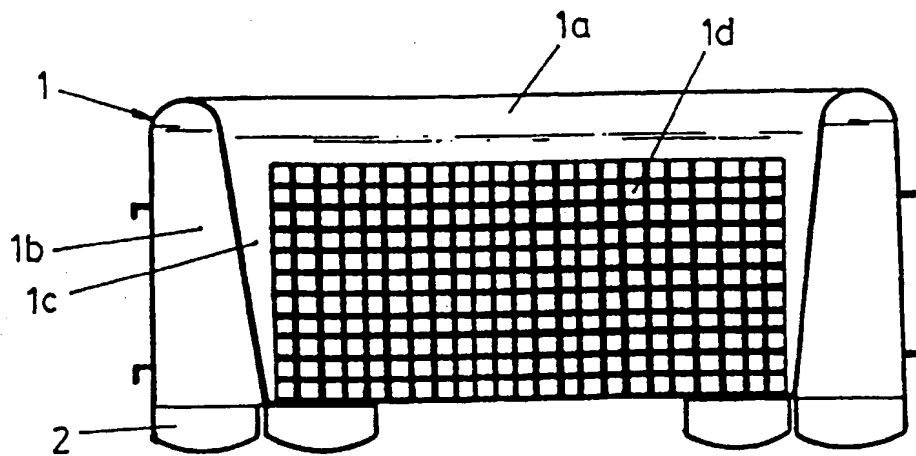


FIG. 4

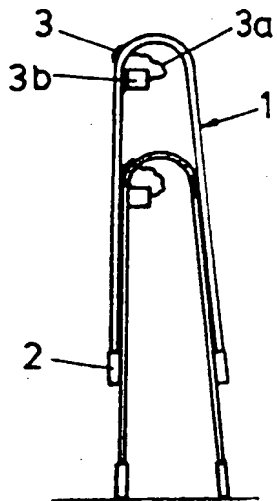


FIG. 5

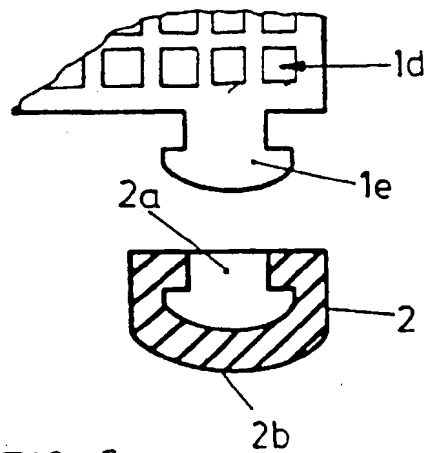


FIG. 6



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 98 50 0013

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	DE 296 01 309 U (BERGHAUS PETER GMBH) 21 March 1996 * page 4, paragraph 8 - page 6, paragraph 1; figures 1,2 *	1,3-5	E01F13/02 E01F9/014
Y	---	2,7,8	
A	US 5 208 585 A (SPRAGUE R PAUL) 4 May 1993 * column 5, line 16 - line 28; figure 7 *	1,9,10	
A	DE 91 02 378 U (W. JUNKER) 8 May 1991 * figure 1 *	1	
Y	FR 2 049 206 A (SCHEPHANS HERMINE) 26 March 1971 * figures 1,2 *	2,7,8	
A	FR 2 642 097 A (MASAIR) 27 July 1990 * page 3, line 25 - page 4, line 10; figure 1 *	1	
A	US 3 807 699 A (FRANCE W) 30 April 1974 * column 2, line 35 - line 51; figure 5 *	9	TECHNICAL FIELDS SEARCHED (Int.Cl.6) E01F E04H
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 8 May 1998	Examiner Kriekoukis, S
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

EPO FORM 1503 03/82 (Pct/01)

